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# SPACE TRANSPORTATION SYSTEM

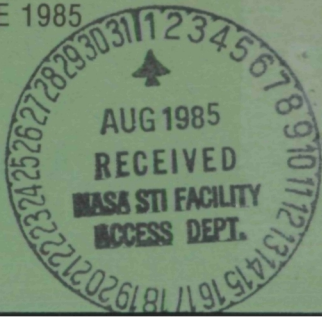
## SPACE SHUTTLE PAYLOAD FLIGHT ASSIGNMENTS

JUNE 1985

**NASA**

National  
Aeronautics and  
Space  
Administration

CUSTOMER SERVICES DIVISION  
WASHINGTON, D.C.



*THIS DOCUMENT IS PROVIDED AS A SERVICE TO  
THE AEROSPACE COMMUNITY BY THE CUSTOMER  
SERVICES DIVISION OF NASA HEADQUARTERS.  
THE FIELDS OF SCIENCE, DEFENSE AND COMMUNI-  
CATIONS HAVE SCHEDULED OVER 200 MAJOR  
PAYLOADS ON THE SPACE SHUTTLE.*

*ITS VERSATILITY COMBINED WITH COMPETITIVE  
PRICING MAKES THE STS THE WORLD LEADER IN  
LAUNCH AND RETRIEVAL SERVICES.*

**AMERICA'S SPACE TRANSPORTATION SYSTEM, WE DELIVER!!**

**SPACE TRANSPORTATION SYSTEM**

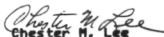
**SPACE SHUTTLE**

**PAYLOAD FLIGHT ASSIGNMENTS**

**JUNE 1985 BASELINE**

**NOTE:** This schedule reflects the flight assignments as of 07-JUN-85 14:34. Changes will be negotiated with the payload organizations affected and will be included in the next monthly update.

**APPROVED:**

  
Chester M. Lee

Director, STS Customer Services

# HEADING ABBREVIATIONS

MSSN	STS mission designation
eg 41-H	First digit: Last digit of fiscal year
	Second digit: Launch site: 1=KSC;2=VAFB
	Letter: Serial flight in fiscal year
DATE:	Year,Month,Day
ORBTR:	Orbiter name
INCL:	Orbit inclination
ALT:	Orbit altitude (n.m.)
CRW:	Number in crew
DUR:	Flight duration
REQ DATE:	Requested date
UF:	Utilization Factor

For further information regarding the  
STS payload assignments, please address:

Chester M. Lee	
Director, STS Customer Services,	Mail Code MC
NASA Headquarters, Washington, DC,	U.S.A. 20546
Telephone:(202)453-2347	Telex:89530

	<u>Fy85</u>	<u>Fy86</u>	<u>Fy87</u>	<u>Fy88</u>	<u>Fy89</u>	<u>Fy90</u>
Flight Rate	9	14	17	19	24	24



COMPLETED OPERATIONAL FLIGHTS

(STS-5 through STS-24)

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
31-A 5	82 11 11 COLUMBIA	28.5 160	4 5	SBS-C TELESAT-E	PAM-D PAM-D		0.93
31-B 6	83 4 4 CHALLENGER	28.5 150	4 5	TDRS-A	IUS/2	CFES MLR, NOSL GAS(3)	0.94
31-C 7	83 6 18 CHALLENGER	28.5 160	5 6	SPAS-01 OSTA-2 TELESAT-F PALAPA B-1	MPES PAM-D PAM-D	CFES MLR GAS(7)	0.95
31-D 8	83 8 30 CHALLENGER	28.5 160	5 6	PDRS/PFTA OIM INSAT 1-B	PAM-D	CFES RME GAS(4) SSIP(1)	0.59
41-A 9	83 11 28 COLUMBIA	57.0 135	6 10	SPACELAB 1	LM+1P		1.00
41-B 11	84 2 3 CHALLENGER	28.5 165	5 8	SPAS-01A PALAPA B-2 WESTAR- 6	PAM-D PAM-D	ACES, IEF C-360c+b RME, MLR GAS(5) SSIP(1) IRT	0.71
JUN85							19-JUN-85 00:52

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE	INCL	CRV	PAYLOAD	CARRIER	OTHER	UF
	ORBTR	ALT	DUR			PAYLOADS	
41-C	84 4 6	28.5	5	LDEF-1		IRME, IMAX	0.85
13	CHALLENGER	250	7	SMM REPAIR	FSS	IC-360b ISSIP(1)	
41-D	84 8 30	28.5	6	OAST-1	MPESS	ICFES III	1.00
14	DISCOVERY	160	6	SBS-D	PAM-D	IMAX	
				TELSTAR 3-C	PAM-D	IRME	
				SYNCOM IV-2		ISSIP(1) CLOUDS	
41-G	84 10 5	57.0	7	OSTA-3	PALLET	IMAX	0.71
17	CHALLENGER	190	8	ERBS		IRME	
				LFC/ORS	MPESS	GAS(8) TLD APE CANEX	
51-A	84 11 8	28.5	5	HS-376 RETV(2)		DMOS	0.98
19	DISCOVERY	160	8	TELESAT-H	PAM-D	IRME	
				SYNCOM IV-1			
51-C	85 1 24	0.0	0	DOD			1.00
20	DISCOVERY	0	0				
JUN85					19-JUN-85 09:52		

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
51-D 23	85 4 12 DISCOVERY	28.5 250	7 5	TELESAT-1 SYNCOM IV-3	PAM-D	CFES III IAFE PPE/SAS SSIP(2) GAS(2)	
51-B 24	85 4 29 CHALLENGER	57.0 190	7 7	SPACELAB 3	LM+MPSS	GAS(2)	1.00L

JUN85 19-JUN-85 09:52

**MANIFESTED FLIGHTS**

**(STS 51-G to STS 81-G)**

Commercial customers making  
progress payments. NASA programs  
with authorized budgets and DOD  
missions with signed Form 100's.

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
51-G 25	85 6 17 DISCOVERY	28.5 190	7 7	SPARTAN-1 MORELOS-A ARABSAT-1B TELSTAR 3-D	MPSS PAM-D PAM-D PAM-D	FEE FPE ADSF HPTE CAS(6)	0.94W
51-F 26	85 7 12 CHALLENGER	50.0 207	7 7	SPACELAB 2	IG+3P	SAREX STTP	1.00D
51-I 27	85 8 24 DISCOVERY	28.5 190	5 8	AUSSAT- 1 ASC- 1 SYNCOM IV-4	PAM-D PAM-D	PVTOS SYNCOM- SALVAGE	0.98W
51-J 28	85 9 19 ATLANTIS	0.0 0	0 0	DOD			1.00D
61-A 30	85 10 30 CHALLENGER	57.0 175	8 7	SPACELAB D-1	LM	GLOMR	1.00D
61-B 31	85 11 27 ATLANTIS	28.5 190	7 7	EASE/ACCESS MORELOS-B SATCOM KU-1 AUSSAT- 2	MPSS PAM-D PAM-D2 PAM-D	UNDER REVIEW CAS(1) ICFES IMAX IUVX	0.95W
JUN85				19-JUN-85 09:52			

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRV DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
61-C 32	85 12 20 COLUMBIA	28.5 160	7 7	MSL- 2 * SATCOM KU-2 SYNCOM IV-5	MPSS PAM-D2	UNDER REVIEW HH-G1 IR-IE DMOS IBSE	10.97W
51-L 33	86 1 22 CHALLENGER	28.5 153	6 6	SPARTAN-HALLEY TDRS-B	MPSS IUS/2	UNDER REVIEW	10.98W
61-E 34	86 3 6 COLUMBIA	28.5 190	7 8	ASTRO-1 WESTAR- 7	IG+2P PAM-D	UNDER REVIEW	10.81W
62-A 1	86 3 20 DISCOVERY	0.0 0	0 0	DOD(V)			11.00D
61-F 35	86 5 15 CHALLENGER	28.5 110	4 2	ULYSSES	CENTAUR		11.00D
61-G 36	86 5 21 ATLANTIS	28.5 110	4 2	GALILEO	CENTAUR		11.00D
JUN85						19-JUN-85 00:52	

\* - MSL-3 LAUNCH SCHEDULE UNDER REVIEW

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE ORBTR	INCLICRW ALTIDUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
61-H 37	86 6 24 COLUMBIA	28.5 160	7 EOS-1 7 IMSL-4 ISKYNET-4A IPALAPA B-3	MPESS PAM-D2 PAM-D		0.83L
61-M 38	86 7 15 CHALLENGER	28.5 154	7 TDRS-D * 5 INSAT 1-C	IUS/2 PAM-D		1.00W
61-J 39	86 8 8 ATLANTIS	28.5 320	5 HUBBLE SP TELS 5			1.00L
61-K 40	86 9 3 COLUMBIA	57.0 160	7 EOM-1/2 7			1.00D
61-I 41	86 9 24 CHALLENGER	28.5 250	5 LDEF-1 RETR ** 5 INTELSAT VI-1			0.84W
62-B 2	86 9 29 DISCOVERY	0.0 0	0 DOD(V) 0			1.00D
61-L 42	86 10 22 ATLANTIS	28.5 160	7 IMSL-5 7 ISHEAL-1 DOD PAM-1 ISTC DBS-A ASC-2	MPESS PAM-D2 PAM-D2 PAM-D		0.99W

JUN85

19-JUN-85 00:52

\* - TDRS-D LAUNCH SCHEDULE UNDER REVIEW

\*\* - LDEF-1 RETRIEVAL UNDER REVIEW



\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
71-A 43	86 10 30 COLUMBIA	28.5 160	7 7	ASTRO-2 SPARTAN-2 HS 376-R	IG+2P MPRESS PAM-D		0.85W
71-B 44	86 11 26 CHALLENGER	0.0 0	0 0	DOD			1.00D
71-C 45	86 12 15 ATLANTIS	28.5 160	7 7	SPARTAN-3 DOD PAM- 2 STC DBS-B SKYNET-4B	MPRESS PAM-D2 PAM-D2 PAM-D2		1.00W
71-D 46	87 1 7 COLUMBIA	28.5 160	6 7	EOS-2 MSL- 6 VOLT-A INTELSAT VI- 2	MPRESS MPRESS		
71-E 47	87 2 9 CHALLENGER	28.5 160	5 7	TDRS-C PL OPPTY	IUS/2		0.88W
72-A 3	87 2 15 DISCOVERY	00.0 160	5 5	SRL-2	IP+MPRESS		
JUN85							19-JUN-85 09:52

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE ORBTR	INCL ALT	CRW DUR	PAYLOAD	CARRIER	OTHER PAYLOADS	UF
71-F 48	87 2 25 ATLANTIS	28.5 160	7 7	SLS- 2 *	LM		1.00D
71-G 49	87 3 3 COLUMBIA	28.5 160	5 7	MSL- 7 DOD PAM- 3 DOD PAM- 4	MPRESS PAM-D2 PAM-D2		0.94W
71-H 50	87 4 2 CHALLENGER	28.5 160	6 7	DOD PAM- 5 SATCOM KU-4 GSTAR-C	PAM-D2 PAM-D2 PAM-D2		0.97W
71-I 51	87 5 1 ATLANTIS	0.0 0	0 0	DOD			1.00D
71-J 52	87 5 11 COLUMBIA	57.0 160	7 7	IML- 1 SPARTAN 205US	LM MPRESS		
71-K 53	87 5 27 CHALLENGER	57.0 245	5 7	LDEF-2 (HNC)			0.87W
71-L 54	87 6 29 ATLANTIS	28.5 160	5 7	MSL- 8 DOD PAM- 6 DOD PAM- 7	MPRESS PAM-D2 PAM-D2		0.77W
JUN85							19-JUN-85 00:52

\* - SLS-1 LAUNCH DATE UNDER REVIEW

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MSSN	DATE	INCL	CRW	PAYLOAD	CARRIER	OTHER	UF
ORBTR	ALT	DUR				PAYLOADS	
71-M 55	87 7 16 COLUMBIA	128.5 193	7 7	ASTRO-3 CRRES	IG+2P		
71-N 56	87 7 27 CHALLENGER	128.5 160	5 7	MSL-9 DOD PAM-8 SPARTAN 206UH PL OPPTY	MPRESS PAM-D2 MPRESS		
71-O 57	87 9 11 ATLANTIS	0.0 0	0 0	DOD			1.00D
71-P 58	87 9 17 COLUMBIA	157.0 256	5 7	SUNLAB-1 ROSAT	IG+1P		
81-A 59	87 10 8 CHALLENGER	0.0 0	0 0	DOD			1.00D
81-B 60	87 11 4 ATLANTIS	128.5 160	5 7	MSL-10 SPARTAN 211UG	MPRESS MPRESS		
81-C 61	87 11 17 COLUMBIA	128.5 160	6 7	EOM-3 DOD PAM-9 IRCA DBS-4 PL OPPTY OR SBS-6	IG+1P PAM-D2  PAM-D		
JUN85				19-JUN-85 09:52			

\*\*\* SHUTTLE FLIGHT ASSIGNMENTS FOR PAYLOADS \*\*\*  
JUNE 1985 BASELINE

MISSION	DATE	INCL	CRW	PAYLOAD	CARRIER	OTHER	UF
	ORBTR	ALT	DUR			PAYLOADS	
81-D	87 12 9	28.5	6	DOD PAM-10	PAM-D2		1.00W
62	CHALLENGER	160	7	DOD PAM-11	PAM-D2		
				GALAXY KU-1			
81-E	88 1 20	0.0	0	DOD			1.00D
63	ATLANTIS	0	0				
81-F	88 1 31	57.0	7	SPACELAB J	LM+MPRESS		1.00D
64	COLUMBIA	200	7				
81-G	88 2 15	28.5	6	MSL-11	MPRESS		
65	CHALLENGER	160	7	ICFMF- 1	PALLET		
				ISPARTAN 207UG	MPRESS		
				DOD PAM-12	PAM-D2		
				IPL OPPTY OR			
				ICBSC- 1	PAM-D		
JUN85						19-JUN-85 09:52	

### STS CUSTOMER REQUIREMENTS

Commercial customers who have made earnest money payments but have not begun making progress payments. Commercial customers will be added to shuttle flights with receipt of progress payments. NASA programs with authorized budgets and DOD missions with signed Form 100's.

# STS CUSTOMER REQUIREMENTS FOR 1987

MONTH	COMMERCIAL REQUIREMENTS	BOOKING DATE
OCTOBER	STC DBS-D	83 11 1
NOVEMBER	STC DBS-E	84 4 13
	SBS-6	83 7 5

# STS CUSTOMER REQUIREMENTS FOR 1988

MON	COMMERCIAL   REQUIREMENTS	BOOKING   DATE	DOD   REQUIREMENTS	NASA   REQUIREMENTS	OTHER   REQUIREMENTS
JAN	CBSC- 1	184 10 15	NONE	NONE	NONE
	ORION-A	184 3 28			
	WESTAR-8	181 6 1			
		184 1 19			
FEB	STC DBS-F	184 5 31	NONE	MSL-11	NONE
MAR	EURECA	184 12 4	DOD PAM-13	NONE	NONE
	UNISAT- 1	184 10 25			
	USAT-3	183 7 14			
	WESTAR-A	184 1 19			
APR	ORION-B	184 5 31	DOD	COBE	NONE
	RCA DBS-5	181 9 2	DOD(V)	MSL-12	
			DOD PAM-14	OSTA-7	
				SPARTAN204ULUS	
				SSBUY- 4	
				VRM	
MAY	STC DBS-C	184 7 31	NONE	GRO	NONE
	TELESAT-K	181 7 6			
	UNISAT- 2	184 10 25			
JUN	INTELSAT VI- 3	185 5 31	DOD PAM-15	CFMF- 2	NONE
	ITALSAT-1	183 5 10			
	TELSTAR 3-B	183 11 30			
	USSB-A	185 1 21			

# STS CUSTOMER REQUIREMENTS FOR 1988

MON	COMMERCIAL   REQUIREMENTS	BOOKING   DATE		DOD   REQUIREMENTS	NASA   REQUIREMENTS	OTHER   REQUIREMENTS	
JUN	WESTAR-B	184	1	19			
JUL	IC2-SPACELINES	185	5	31	DOD PAM-16	MSL-13	NONE
	IORION-C	184	9	25		SLS- 3	
	ISBTS-A3	182	8	25		SPARTAN 200UH	
	ISPAELAB D-2	184	6	22			
	ISPAENET-D	185	1	23			
	IUNISAT- 3	184	10	25			
AUG	INTELSAT VI-	185	5	31	DOD	LEASECRAFT-10	NONE
	IRCA DBS-2	184	4	2			
SEP	ICBSC- 2	184	10	15	DOD(V)	DARK SKY	NONE
	IEURECA RETR	184	12	4	DOD PAM-17	TSS-1	
	IUSSB-B	185	1	21			
OCT	IORION-D	185	3	11	DOD PAM-18	MSL-14	NONE
	ISPAELAB D-4	184	4	9		SHEAL- 2	
						SPARTAN 210CS	
NOV	IGALAXY KU-2	184	9	1	DOD PAM-19	EOM-4	NONE
						LAGEOS- 2	
DEC	NONE				DOD	EUVE	NONE
					DOD	IMSAT	
					DOD(V)	OSTA-9	



# STS CUSTOMER REQUIREMENTS FOR 1980

MON	COMMERCIAL   REQUIREMENTS	BOOKING   DATE	DOD   REQUIREMENTS	NASA   REQUIREMENTS	OTHER   REQUIREMENTS
JAN	FORDSAT-1   WESTAR- 9	185 1 1   84 1 19	DOD PAM-20	MSL-15   SPARTAN 208UL	NONE 
FEB	NONE 		DOD PAM-21	IML- 2   LEASECRAFT-RET	NONE 
MAR	WESTAR-C 	184 1 19 	NONE 	ICFMF- 3   MSL-16   SUNLAB- 2	NONE 
APR	FORDSAT-2   INTELSAT VI-	185 1 1   81 3 16	DOD   DOD PAM-22	NONE 	NONE 
MAY	NONE 		DOD PAM-23	MSL-17	NONE
JUN	NONE 		DOD   DOD PAM-24	OSTA-11 	NONE 
JUL	FORDSAT-3   INTELSAT VI-   TELESAT-L	185 1 1   81 3 16   81 7 6	DOD(V)   DOD PAM-25	IMAST- 1   MSL-18	NONE 
AUG	NONE 		DOD PAM-26	IHUB SP TEL RET   LEASECRAFT-102	NONE 
SEP	IRCA DBS-1   SBTS-A4	184 4 2   82 8 25	DOD(V)   DOD PAM-27	IACS   MSL-19	NONE 

# STS CUSTOMER REQUIREMENTS FOR 1989

MON	COMMERCIAL	BOOKING	DOD	NASA	OTHER
	REQUIREMENTS	DATE	REQUIREMENTS	REQUIREMENTS	REQUIREMENTS
SEP				SLS- 4	
OCT	INTELSAT VI- 7	81 3 16	NONE	UARS	GOES-I NOAA-K
NOV	NONE		NONE	EOM-5	NONE
DEC	SAX	184 10 31	NONE	SP PLASMA- 1	NONE

# STS CUSTOMER REQUIREMENTS FOR 1990

MON	COMMERCIAL	BOOKING	DOD	NASA	OTHER
	REQUIREMENTS	DATE	REQUIREMENTS	REQUIREMENTS	REQUIREMENTS
JAN	INTELSAT VI- WESTAR-10	8181 184 1 191	3 16 NONE	SUNLAB- 3 	GOES-J 
MAR	NONE		NONE	ILDEF-2 RETR	NONE
APR	INTELSAT VI- 9	8181 3 16	NONE	OMV	NONE
JUN	SATCOM KU-3	185 2 1	NONE	NONE	NONE
JUL	NONE		NONE	IMAST- 2	NONE
AUG	NONE		NONE	NONE	NOAA-L
OCT	INTELSAT VI-10	8181 3 16	NONE	COM-6 SHEAL- 3	NONE 
NOV	TELESAT-M	181 7 6	NONE	NONE	NONE
DEC	NONE		NONE	IRADARSAT	NONE

PAYLOAD DATA FOR OPTION JUN85					31-MAY-85 13:45			
PAYLOAD NAME	CARRIER	MSSN	FLT	DATE	AVL	DATE	BKG	DATE
ACTS	PAM-D	NA	0	0 0	89	9 1	84	6 10
ARABSAT-1B	PAM-D	51-G	85	6 17	85	5 1	79	2 12
ASC- 1	PAM-D	51-I	85	8 24	85	9 1	79	2 12
ASC- 1	PAM-D	NA	0	0 0	85	8 1	84	2 1
ASC- 2	PAM-D	61-L	86	10 22	86	9 1	82	2 10
ASTRO-1	IG+2P	61-E	86	3 6	86	3 6	80	9 15
ASTRO-2	IG+2P	71-A	86	10 30	86	10 27	80	9 15
ASTRO-3	IG+2P	71-M	87	7 16	87	7 19	80	9 15
AUSSAT- 1	PAM-D	51-I	85	8 24	85	7 1	80	6 11
AUSSAT- 2	PAM-D	61-B	85	11 27	85	10 1	80	6 11
IC2-SPACELINES		NA	0	0 0	88	7 1	85	5 31
CBSC- 1	PAM-D	81-G	88	2 15	88	1 1	84	10 15
CBSC- 2	PAM-D	NA	0	0 0	88	9 1	84	10 15
CFMF- 1	PALLET	81-G	88	2 15	88	1 1	83	6 30
CFMF- 2	PALLET	NA	0	0 0	88	6 1	83	6 30
CFMF- 3	PALLET	NA	0	0 0	89	3 1	84	6 14
ICOB		NA	0	0 0	88	4 1	79	9 15
CRRES		71-M	87	7 16	87	6 1	84	6 5
DARK SKY	IG+2P	NA	0	0 0	88	9 1	85	3 12
DBS LUX-A	PAM-D	NA	0	0 0	99	9 9	83	12 23
DBS LUX-B	PAM-D	NA	0	0 0	99	9 9	83	12 23
DBS LUX-C	PAM-D	NA	0	0 0	99	9 9	83	12 23
DOD		51-C	85	1 24	84	12 2	0	0 0
DOD		51-J	85	9 19	85	9 1	0	0 0
DOD		71-B	86	11 26	86	11 1	0	0 0

PAYLOAD DATA FOR OPTION JUN85					31-MAY-85 13.45				
PAYLOAD NAME	CARRIER	MSSN	FLT	DATE	AVL	DATE	BKG	DATE	
DOD		71-J	87	5 1	87	5 1	0 0 0		
DOD		NA	0	0 0	88	12 1	0 0 0		
DOD		81-A	87	10 8	87	10 1	0 0 0		
DOD		NA	0	0 0	88	4 1	0 0 0		
DOD		81-E	88	1 20	88	1 1	0 0 0		
DOD		NA	0	0 0	88	8 1	0 0 0		
DOD		NA	0	0 0	88	12 1	0 0 0		
DOD		NA	0	0 0	89	6 1	0 0 0		
DOD		NA	0	0 0	89	4 1	0 0 0		
DOD		71-O	87	9 11	87	9 1	0 0 0		
DOD PAM- 1	PAM-D2	61-L	86	10 22	86	8 22	0 0 0		
DOD PAM- 2	PAM-D2	71-C	86	12 15	86	11 7	82 3 23		
DOD PAM- 3	PAM-D2	71-G	87	3 3	86	12 19	82 3 23		
DOD PAM- 4	PAM-D2	71-G	87	3 3	87	2 20	82 3 23		
DOD PAM- 5	PAM-D2	71-H	87	4 2	87	4 3	82 3 23		
DOD PAM- 6	PAM-D2	71-L	87	6 29	87	5 15	82 3 23		
DOD PAM- 7	PAM-D2	71-L	87	6 29	87	6 26	82 3 23		
DOD PAM- 8	PAM-D2	71-N	87	7 27	87	8 7	82 3 23		
DOD PAM- 9	PAM-D2	81-C	87	11 17	87	9 18	82 3 23		
DOD PAM-10	PAM-D2	81-D	87	12 9	87	10 30	82 3 23		
DOD PAM-11	PAM-D2	81-D	87	12 9	87	12 15	82 3 23		
DOD PAM-12	PAM-D2	81-C	88	2 15	88	2 5	82 3 23		
DOD PAM-13	PAM-D2	NA	0	0 0	88	3 18	82 3 23		
DOD PAM-14	PAM-D2	NA	0	0 0	88	4 29	82 3 23		
DOD PAM-15	PAM-D2	NA	0	0 0	88	6 10	82 3 23		

PAYLOAD DATA FOR OPTION JUN85					31-MAY-85 13:45			
PAYLOAD NAME	CARRIER	MSSN	FLT	DATE	AVL DATE	BKG DATE		
DOD PAM-16	PAM-D2	NA	0	0 0	88 7 22	82 3 23		
DOD PAM-17	PAM-D2	NA	0	0 0	88 9 2	82 3 23		
DOD PAM-18	PAM-D2	NA	0	0 0	88 10 14	82 3 23		
DOD PAM-19	PAM-D2	NA	0	0 0	88 11 25	82 3 23		
DOD PAM-20	PAM-D2	NA	0	0 0	89 1 13	82 3 23		
DOD PAM-21	PAM-D2	NA	0	0 0	89 2 24	82 3 23		
DOD PAM-22	PAM-D2	NA	0	0 0	89 4 7	82 3 23		
DOD PAM-23	PAM-D2	NA	0	0 0	89 5 12	82 3 23		
DOD PAM-24	PAM-D2	NA	0	0 0	89 6 16	82 3 23		
DOD PAM-25	PAM-D2	NA	0	0 0	89 7 21	82 3 23		
DOD PAM-26	PAM-D2	NA	0	0 0	89 8 25	82 3 23		
DOD PAM-27	PAM-D2	NA	0	0 0	89 9 29	82 3 23		
DOD(V)		62-A	86	3 20	86 3 1	0 0 0		
DOD(V)		NA	0	0 0	88 9 1	0 0 0		
DOD(V)		NA	0	0 0	88 12 1	0 0 0		
DOD(V)		NA	0	0 0	89 9 1	0 0 0		
DOD(V)		NA	0	0 0	89 7 1	0 0 0		
DOD(V)		NA	0	0 0	88 4 1	0 0 0		
DOD(V)		62-B	86	9 29	86 9 1	0 0 0		
EASE/ACCESS	MPRESS	61-B	85	11 27	85 11 1	83 10 18		
EOM-1/2	SM+1P+MP	61-K	86	9 3	86 8 1	83 11 2		
EOM-10	IG+1P	NA	0	0 0	94 10 1	83 7 11		
EOM-11	IG+1P	NA	0	0 0	95 10 1	83 7 11		
EOM-12	IG+1P	NA	0	0 0	96 10 1	83 7 11		
EOM-3	IG+1P	81-C	87	11 17	87 10 1	82 9 18		

## PAYLOAD DATA FOR OPTION JUN85

31-MAY-85 13:45

PAYLOAD NAME	CARRIER	MSSN	FLT	DATE	AVL DATE	BKG DATE
EOM-4	IG+1P	NA	0	0 0	88 11 1	83 7 11
EOM-5	IG+1P	NA	0	0 0	89 11 1	83 7 11
EOM-6	IG+1P	NA	0	0 0	90 10 1	83 7 11
EOM-7	IG+1P	NA	0	0 0	91 10 1	83 7 11
EOM-8	IG+1P	NA	0	0 0	92 10 1	83 7 11
EOM-9	IG+1P	NA	0	0 0	93 10 1	83 7 11
EOS-1		61-H	86	6 24	85 11 1	81 6 29
EOS-2		71-D	87	1 7	86 6 1	81 6 29
ERBS		41-C	84	10 5	84 5 1	79 6 15
EURECA		NA	0	0 0	88 3 1	84 12 4
EURECA RETR		NA	0	0 0	88 9 1	84 12 4
EUVE		NA	0	0 0	88 12 1	84 6 6
FORDSAT-1		NA	0	0 0	89 1 1	85 1 1
FORDSAT-2		NA	0	0 0	89 4 1	85 1 1
FORDSAT-3		NA	0	0 0	89 7 1	85 1 1
GALAXY KU-1		81-D	87	12 9	87 11 1	84 9 1
GALAXY KU-2		NA	0	0 0	88 11 1	84 9 1
GALILEO	CENTAUR	61-C	86	5 21	86 5 21	77 9 12
GAS BRIDGE		NA	0	0 0	84 8 1	83 6 14
GOES-1	PAM-D	NA	0	0 0	89 10 1	83 7 20
GOES-J	PAM-D	NA	0	0 0	90 1 1	83 7 20
GRO		NA	0	0 0	88 5 1	79 9 15
GSTAR-C	PAM-D2	71-H	87	4 2	85 7 1	80 4 7
IHS 376-R	PAM-D	71-A	86	10 30	85 7 1	78 12 12
IHS-376 RETV(2)	12 PALLET	51-A	84	11 8	84 11 2	0 0 0

PAYLOAD DATA FOR OPTION JUN85					31-MAY-85 13:45		
PAYLOAD NAME	CARRIER	MSSN	FLT	DATE	AVL DATE	BKG DATE	
HUB SP TEL RET		NA	0	0 0	89 8	83 3	25
HUBBLE SP TELS		61-J	86	8 8	86 6	83 3	25
IML- 1	ILM	71-J	87	5 11	87 5	81 6	1
IML- 2	ILM+IP	NA	0	0 0	89 2	83 12	22
INSAT 1-B	PAM-D	31-D	83	8 30	83 7	77 10	19
INSAT 1-C	PAM-D	61-M	86	7 15	86 6	82 11	13
INTELSAT VI- 1		61-J	86	9 24	86 9	81 3	16
INTELSAT VI- 2		71-D	87	1 7	87 1	81 3	16
INTELSAT VI- 3		NA	0	0 0	88 6	85 5	31
INTELSAT VI- 4		NA	0	0 0	88 8	85 5	31
INTELSAT VI- 5		NA	0	0 0	89 4	81 3	16
INTELSAT VI- 6		NA	0	0 0	89 7	81 3	16
INTELSAT VI- 7		NA	0	0 0	89 10	81 3	16
INTELSAT VI- 8		NA	0	0 0	90 1	81 3	16
INTELSAT VI- 9		NA	0	0 0	90 4	81 3	16
INTELSAT VI-10		NA	0	0 0	90 10	81 3	16
INTELSAT VI-11		NA	0	0 0	91 1	81 3	16
ITALSAT-1	PAM-D2	NA	0	0 0	88 6	83 5	10
LAGEOS- 2	IRIS	NA	0	0 0	88 11	85 5	31
LDEF-1		41-C	84	4 6	84 1	77 7	26
LDEF-1 RETR		61-J	86	9 24	85 1	77 7	26
LDEF-2 (HNC)		71-K	87	5 27	87 5	84 6	1
LDEF-2 RETR		NA	0	0 0	90 3	80 9	22
LEASECRAFT-101		NA	0	0 0	88 8	84 1	11
LEASECRAFT-102		NA	0	0 0	89 8	84 1	11



PAYLOAD DATA FOR OPTION JUN85					31-MAY-85 13:45						
PAYLOAD NAME	CARRIER	MSSN	FLT	DATE	AVL	DATE	BKG	DATE			
LEASECRAFT-RET		NA	0	0	0	89	2	1	84	1	11
ILFC	MPRESS	NA	0	0	0	84	1	1	81	12	21
ILFC/ORS	MPRESS	41-G	84	10	5	84	7	1	79	9	15
IMAST- 1	PALLET	NA	0	0	0	89	7	1	84	4	19
IMAST- 2	PALLET	NA	0	0	0	90	7	1	84	4	19
IMORELOS-A	PAM-D	51-G	85	6	17	85	5	1	82	6	1
IMORELOS-B	PAM-D	61-B	85	11	27	85	9	1	82	6	1
IMSAT		NA	0	0	0	88	12	1	85	2	21
IMSL- 2	MPRESS	61-C	85	12	20	85	8	1	79	9	15
IMSL- 3	MPRESS	NA	0	0	0	85	12	1	77	9	12
IMSL- 4	MPRESS	61-H	86	6	24	86	3	1	83	8	17
IMSL- 5	MPRESS	61-L	86	10	22	86	4	1	80	9	15
IMSL- 6	MPRESS	71-D	87	1	7	86	10	1	79	9	15
IMSL- 7	MPRESS	71-G	87	3	3	87	3	1	83	8	17
IMSL- 8	MPRESS	71-L	87	6	29	87	4	1	81	7	7
IMSL- 9	MPRESS	71-N	87	7	27	87	9	1	83	8	17
IMSL-10	MPRESS	81-B	87	11	4	87	10	1	79	9	15
IMSL-11	MPRESS	81-G	88	2	15	88	2	1	83	8	17
IMSL-12	MPRESS	NA	0	0	0	88	4	1	82	9	18
IMSL-13	MPRESS	NA	0	0	0	88	7	1	83	8	17
IMSL-14	MPRESS	NA	0	0	0	88	10	1	83	12	22
IMSL-15	MPRESS	NA	0	0	0	89	1	1	83	12	22
IMSL-16	MPRESS	NA	0	0	0	89	3	1	83	12	22
IMSL-17	MPRESS	NA	0	0	0	89	5	1	83	12	22
IMSL-18	MPRESS	NA	0	0	0	89	7	1	83	12	22

PAYLOAD DATA FOR OPTION JUN85				31-MAY-85 13:45			
PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE		
IMSL-10	MPRESS	NA	0 0 0	80 9 1	83 12 22		
INOAA-K		NA	0 0 0	80 10 1	83 9 2		
INOAA-L		NA	0 0 0	90 8 1	83 9 2		
INOAA-M		NA	0 0 0	91 3 1	83 9 2		
INOAA-N		NA	0 0 0	92 8 1	83 9 2		
INOAA-O		NA	0 0 0	93 3 1	83 9 2		
INOAA-P		NA	0 0 0	94 8 1	83 9 2		
IOAST-1	MPRESS	41-D	84 8 30	84 4 1	79 1 22		
IOAST-3	MPRESS	NA	0 0 0	87 6 1	81 7 7		
IOIM		31-D	83 8 30	83 8 11	83 5 4		
IOMV		NA	0 0 0	90 4 1	84 10 25		
IORION-A	PAM-D2	NA	0 0 0	88 1 1	84 3 28		
IORION-B	PAM-D2	NA	0 0 0	88 4 1	84 5 31		
IORION-C	PAM-D2	NA	0 0 0	88 7 1	84 9 25		
IORION-D	PAM-D2	NA	0 0 0	88 10 1	85 3 11		
IOSTA-11	PALLET	NA	0 0 0	89 6 1	83 12 22		
IOSTA-2	MPRESS	7	83 6 18	83 4 20	79 1 22		
IOSTA-3	PALLET	41-G	84 10 5	84 7 1	79 9 15		
IOSTA-7	PALLET	NA	0 0 0	88 4 1	81 6 30		
IOSTA-9	PALLET	NA	0 0 0	88 12 1	82 9 18		
IPALAPA B-1	PAM-D	7	83 6 18	83 3 1	78 12 12		
IPALAPA B-2	PAM-D	41-B	84 2 3	83 6 1	78 12 12		
IPALAPA B-3	PAM-D	61-H	86 6 24	86 7 1	84 10 20		
IPDRS/PFTA		31-D	83 8 30	82 5 1	76 1 1		
IPL OPPTY OR		NA	0 0 0	0 0 0	81 1 1		

PAYLOAD DATA FOR OPTION JUN85				31-MAY-85 13:45			
PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE		
RADARSAT		NA	0 0 0	00 12 1	84 10 22		
RCA DBS-1		NA	0 0 0	89 0 1	84 4 2		
RCA DBS-2		NA	0 0 0	88 8 1	84 4 2		
RCA DBS-4		81-C	87 11 17	87 10 1	81 0 2		
RCA DBS-5		NA	0 0 0	88 4 1	81 0 2		
ROSAT		71-P	87 9 17	87 0 1	82 7 2		
SATCOL-A	PAM-D	NA	0 0 0	99 0 0	82 10 18		
SATCOL-B	PAM-D	NA	0 0 0	99 0 0	82 10 18		
SATCOM I	PAM-D2	NA	0 0 0	99 0 0	85 2 1		
SATCOM J	PAM-D2	NA	0 0 0	91 1 1	79 11 16		
SATCOM KU-1	PAM-D2	61-B	85 11 27	85 0 1	79 11 16		
SATCOM KU-2	PAM-D2	61-C	85 12 20	85 0 1	81 0 2		
SATCOM KU-3	PAM-D2	NA	0 0 0	90 6 1	85 2 1		
SATCOM KU-4	PAM-D2	71-H	87 4 2	87 4 1	81 0 2		
SAX	IRIS	NA	0 0 0	89 12 1	84 10 31		
SBS- 6	PAM-D	81-C	87 11 17	87 11 1	85 1 25		
SBS-C	PAM-D	31-A	82 11 11	82 11 11	77 2 2		
SBS-D	PAM-D	41-D	84 8 30	84 8 1	79 12 27		
SBS-E	PAM-D	NA	0 0 0	86 10 1	83 4 27		
SBTS-A3	PAM-D	NA	0 0 0	88 7 1	82 8 25		
SBTS-A4	PAM-D	NA	0 0 0	89 0 6	82 8 25		
SHEAL- 1	SPOC	61-L	86 10 22	86 7 1	84 1 25		
SHEAL- 2	SPOC	NA	0 0 0	88 10 1	81 7 7		
SHEAL- 3	SPOC	NA	0 0 0	90 10 1	83 12 22		
SKYNET-4A	PAM-D2	61-H	86 6 24	86 5 1	82 3 23		

PAYLOAD DATA FOR OPTION JUN85					31-MAY-85 13:45		
PAYLOAD NAME	CARRIER	MSSN	FLT	DATE	AVL	DATE	BKG DATE
SKYNET-4B	PAM-D2	71-C	86	12 15	86	10 1	82 3 23
SLS- 1	LM	NA	0	0 0	85	12 17	77 9 12
SLS- 2	LM	71-F	87	2 25	87	2 1	84 1 7
SLS- 3	LM	NA	0	0 0	88	7 1	80 9 15
SLS- 4	LM	NA	0	0 0	89	9 1	83 12 22
SMM REPAIR	FSS	41-C	84	4 6	84	4 1	81 8 24
SOT-1	IG+2P	NA	0	0 0	91	6 1	80 9 15
SP PLASMA- 1	IG+1P	NA	0	0 0	89	12 1	83 4 11
SP PLASMA- 2	IG+2P	NA	0	0 0	91	12 1	83 12 22
SPACELAB 1	LM+1P	41-A	83	11 28	83	9 30	78 5 18
SPACELAB 2	IG+3P	51-F	85	7 12	85	4 1	76 4 7
SPACELAB 3	LM+MPRESS	51-B	85	4 29	85	1 22	76 4 4
SPACELAB D-1	LM	61-A	85	10 30	85	8 15	78 1 3
SPACELAB D-2	LM	NA	0	0 0	88	7 1	84 6 22
SPACELAB D-4	IG+2P	NA	0	0 0	88	10 1	84 4 9
SPACELAB J	LM+MPRESS	81-F	88	1 31	88	1 1	81 6 1
SPACENET-D	PAM-D	NA	0	0 0	88	7 1	85 1 23
SPARTAN 205US	MPRESS	71-J	87	5 11	87	4 1	85 4 19
SPARTAN 206UH	MPRESS	71-N	87	7 27	87	7 1	85 4 19
SPARTAN 207UG	MPRESS	81-G	88	2 15	88	1 1	85 4 19
SPARTAN 208UL	MPRESS	NA	0	0 0	89	1 1	85 4 19
SPARTAN 209UH	MPRESS	NA	0	0 0	88	7 1	85 4 19
SPARTAN 210CS	MPRESS	NA	0	0 0	88	10 1	85 4 19
SPARTAN 211UG	MPRESS	81-B	87	11 4	87	10 1	85 4 19
SPARTAN-1	MPRESS	51-G	85	6 17	85	5 1	79 11 6

## PAYLOAD DATA FOR OPTION JUN85

31-MAY-85 13:45

PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE
SPARTAN-2	IMPRESS	71-A	86 10 30	86 9 1	79 11 6
SPARTAN-3	IMPRESS	71-C	86 12 15	86 12 1	79 11 6
SPARTAN-HALLEY	IMPRESS	51-L	86 1 22	86 1 1	84 5 23
SPARTAN204ULUS	IMPRESS	NA	0 0 0	88 4 1	85 4 10
SPAS-01		7	83 6 18	83 4 1	78 5 12
SPAS-01A		41-B	84 2 3	84 1 1	89 9 9
SRL-2	1P+MPRESS	72-A	87 2 15	87 2 1	84 10 10
SSBUY- 1	PALLET	NA	0 0 0	86 10 1	85 3 28
SSBUY- 2	PALLET	NA	0 0 0	87 4 1	85 3 28
SSBUY- 3	PALLET	NA	0 0 0	87 10 1	85 3 28
SSBUY- 4	PALLET	NA	0 0 0	88 4 1	85 3 28
STC DBS-A	IPAM-D2	61-L	86 10 22	86 10 1	85 5 14
STC DBS-B	IPAM-D2	71-C	86 12 15	86 12 1	85 5 14
STC DBS-C	IPAM-D	NA	0 0 0	88 5 1	84 7 31
STC DBS-D	IPAM-D	NA	0 0 0	87 10 1	83 11 1
STC DBS-E	IPAM-D	NA	0 0 0	87 11 1	84 4 13
STC DBS-F	IPAM-D	NA	0 0 0	88 2 1	84 5 31
SUNLAB- 1	IG+1P	71-P	87 9 17	87 5 1	83 8 9
SUNLAB- 2	IG+1P	NA	0 0 0	89 3 1	83 9 23
SUNLAB- 3	IG+1P	NA	0 0 0	90 1 1	83 12 22
SYNCOM IV-1		51-A	84 11 8	84 3 1	78 11 6
SYNCOM IV-2		41-D	84 8 30	84 7 1	78 11 6
SYNCOM IV-3		51-D	85 4 12	85 2 1	78 11 6
SYNCOM IV-4		51-I	85 8 24	85 7 1	78 11 6
SYNCOM IV-5		61-C	85 12 20	85 12 1	85 4 23

PAYLOAD DATA FOR OPTION JUN85					31-MAY-85 13:45		
PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE		
TDRS-A	IUS/2	6	83 4 4	83 1 20	78 5 18		
TDRS-B	IUS/2	51-L	86 1 22	85 3 1	77 7 11		
TDRS-C	IUS/2	71-E	87 2 9	86 1 1	84 8 3		
TDRS-D	IUS/2	61-M	86 7 15	85 7 1	84 3 1		
TELESAT-E	PAM-D	31-A	82 11 11	82 11 11	77 3 8		
TELESAT-F	PAM-D	7	83 6 18	83 4 1	77 3 8		
TELESAT-H	PAM-D	51-A	84 11 8	84 10 1	78 9 25		
TELESAT-I	PAM-D	51-D	85 4 12	84 4 1	77 3 8		
TELESAT-J	PAM-D2	NA	0 0 0	92 5 1	84 4 14		
TELESAT-K	PAM-D2	NA	0 0 0	88 5 1	81 7 6		
TELESAT-L	PAM-D2	NA	0 0 0	89 7 1	81 7 6		
TELESAT-M	PAM-D2	NA	0 0 0	90 11 1	81 7 6		
TELESAT-N	PAM-D2	NA	0 0 0	91 2 1	81 7 6		
TELSTAR 3-B	PAM-D2	NA	0 0 0	88 6 1	83 11 30		
TELSTAR 3-C	PAM-D	41-D	84 8 30	84 7 1	79 6 13		
TELSTAR 3-D	PAM-D	51-G	85 6 17	85 5 1	79 6 13		
TEMPS-III-A		NA	0 0 0	85 11 1	84 10 5		
TEMPS-III-B		NA	0 0 0	86 6 1	84 8 1		
TSS-1	PALLET	NA	0 0 0	88 9 1	85 2 26		
UARS	HMS	NA	0 0 0	89 10 1	84 11 13		
JULYSSES	CENTAUR	61-F	86 5 15	86 5 17	77 10 1		
IUNISAT- 1	IPAM-D2	NA	0 0 0	88 3 1	84 10 25		
IUNISAT- 2	IPAM-D2	NA	0 0 0	88 5 1	84 10 25		
IUNISAT- 3	IPAM-D2	NA	0 0 0	88 7 1	84 10 25		
IUNISAT- 4	IPAM-D2	NA	0 0 0	88 9 1	84 10 25		

PAYLOAD DATA FOR OPTION JUN85				31-MAY-85 13.45			
PAYLOAD NAME	CARRIER	MSSN	FLT DATE	AVL DATE	BKG DATE		
IUNISAT- 5	PAM-D2	NA	0 0 0	88 11 1	84 10 25		
IUSAT-3		NA	0 0 0	88 3 1	83 7 14		
IUSSB-A		NA	0 0 0	88 6 1	85 1 21		
IUSSB-B		NA	0 0 0	88 9 1	85 1 21		
IUSSB-C		NA	0 0 0	87 12 1	84 4 30		
I VOLT-A	MPRESS	71-D	87 1 7	86 9 1	85 3 5		
I VRM	CENTAUR	NA	0 0 0	88 4 6	83 6 3		
I WESTAR- 6	PAM-D	41-B	84 2 3	84 1 29	83 3 28		
I WESTAR- 7	PAM-D	61-E	86 3 6	85 9 1	82 7 15		
I WESTAR- 8	PAM-D	NA	0 0 0	88 1 1	84 1 10		
I WESTAR- 9	PAM-D	NA	0 0 0	89 1 1	84 1 19		
I WESTAR-10	PAM-D	NA	0 0 0	90 1 1	84 1 19		
I WESTAR-11	PAM-D	NA	0 0 0	92 3 1	84 1 19		
I WESTAR-12	PAM-D	NA	0 0 0	92 7 1	84 1 19		
I WESTAR-13	PAM-D	NA	0 0 0	94 2 1	84 1 19		
I WESTAR-14	PAM-D	NA	0 0 0	95 10 1	84 1 19		
I WESTAR-15	PAM-D	NA	0 0 0	98 2 1	84 1 19		
I WESTAR-16	PAM-D	NA	0 0 0	99 2 1	84 1 19		
I WESTAR-17	PAM-D	NA	0 0 0	0 0 0	84 1 19		
I WESTAR-A	PAM-D2	NA	0 0 0	88 3 1	84 1 19		
I WESTAR-B	PAM-D2	NA	0 0 0	88 6 1	84 1 19		
I WESTAR-C	PAM-D2	NA	0 0 0	89 3 1	84 1 19		
I WESTAR-D	PAM-D2	NA	0 0 0	98 4 1	84 1 19		
I WESTAR-E	PAM-D2	NA	0 0 0	98 7 1	84 1 19		
I WESTAR-F	PAM-D2	NA	0 0 0	99 4 1	84 1 19		

# PAYLOAD ACRONYM LIST

<u>ACRONYM</u>	<u>NAME</u>	<u>DESCRIPTION</u>
ACES	Acoustic Containerless Experiment System	technical demonstration to obtain early microgravity tests of gas transport phenomena in a 3-axis levitation furnace.
ACTS	Advanced Communication Technology Satellite	flight verification of high risk communications technology to support future communication systems.
ADSF	Automatic Directional Solidification Furnace	technology demonstration of directional solidification of magnetic materials, immiscibles, and IR detection materials.
AFE	American Flight Echocardiograph	collects quantitative in-flight data on cardiovascular changes in the crew.
ALE	Atmospheric Luminosity Experiment	investigates the ion chemistry of the atmosphere and orbiter surfaces.
APE	Aurora Photography Experiment	enhance understanding of the geographic extent and dynamics of the aurora.
ARABSAT	ARABSAT	communications satellite of the Arab Satellite Communications Organization.
ARC	Aggregation of Red Cells	studies aggregation of red cells and blood viscosity under low-g conditions.
ART	Amateur Radio Transceiver	establishes communication between radio operator on the Shuttle and operator on the ground.
ASC	American Satellite Company	provides commercial communication service via satellite to CONUM, Hawaii, Alaska, and Puerto Rico.



ASTRO	Ultraviolet Astronomy Telescope (formerly OSS-3)	three-mission program designed to obtain UV data on astronomical objects.
AUSSAT	Australian Communication Satellite	direct broadcast communication satellite which provides services to continental Australia and off-shore territories.
BRE	Blood Rheology Experiment	technology demonstration of this apparatus to study aggregation of red blood cells and blood viscosity under low-g conditions.
C2-SPACELINES	Commercial Cargo Spacelines	performs launch and other required services for C2 mixed cargo.
C-360	Cinema-360	35mm motion picture camera for the purpose of photographing crew and mission activities.
CANEX	Canadian Payload Specialist Experiment	experiment package flown with Canadian payload specialists on mission 41-G.
CBSC	China Broadcasting Satellite	television and sound broadcasting satellite.
CENTAUR	Centaur	General Dynamics hydrogen/oxygen upper stage.
CFES	Continuous Flow Electrophoresis System	demonstrates the technology of pharmaceutical processing in space.
CFMF	Cryogenic Fluid Management Facility	re-usable research facility to establish technology base for 0-g cryogenic fluid management system.
CLOUDS	Structures Photography Experiments	cloud formation, dissipation and opaqueness observations.
COBE	Cosmic Background Explorer	study the diffuse radiation of the universe.
CPL	Capillary Pump Loop Explorer	determine 0-g performance of a capillary pump loop heat acquisition system.

CRRES	Combined Release and Radiation Effects Satellite	study the upper atmosphere and ionosphere by releasing trace metal vapors.
DARK SKY		conducts sky survey for extended infrared sources, X-ray imaging of galaxy clusters and makes cosmic ray measurements.
DBS	Direct Broadcast Satellite	
DBS LUX		Radio-Tele-Luxembourg direct broadcast satellite.
DMOS	Diffusive Mixing of Organic Solutions	grow crystals of organic compounds for research programs within the 3M Corporation's Science Research Laboratory.
DOD	Department of Defense	
EASE/ACCESS	Experimental Assembly of Structures in EVA/Assembly Concept for Construction of Erectable Space Structures	measures the human factors while assembling structures in space during EVA.
EEVT	Electrophoresis Equipment Verification Test	technology demonstration of apparatus to evaluate the effects of electrophoresis of biological cells in 0-g.
EML	Electromagnetic Levitation Payload	technology demonstration to observe the flow of the surface of a containerless molten metal.
EOM	Environmental Observation Mission	measure long term variability in the total energy radiated by the sun and determine the variability in the solar spectrum.
EOS	Electrophoresis Operation in Space	produce pharmaceuticals for large scale tests leading to FDA approval and commercial production.
ERBS	Earth Radiation Budget Satellite	collects global earth radiation budget data.

EURECA	Europe Retrievable Carrier	platform placed in orbit for six months offering conventional services to experimenters.
EUVE	Extreme Ultraviolet Experiment	survey the sky in the EUV band (100 - 1,000 angstrom).
FDE	Fluid Dynamics Experiment	
FEE (formerly ECHO)	French Echocardiograph Equipment	obtains on-orbit cardiovascular system data.
FORDSAT		Ford Aerospace Corporation communication satellite.
FPE	French Postural Experiment	studies sensory-motor adaptations in weightlessness.
FTDI	Fluid Transfer Dynamic Investigation	evaluates fluid dynamics associated with filling capillary/screen retention propellant tanks.
GALAXY-KU	GALAXY-KU Band	Hughes domestic and commercial communication satellite.
GALILEO	GALILEO	investigates the chemical composition and physical state of Jupiter's atmosphere and satellites.
GARD	Gamma Radiation Detection	measures gamma radiation levels in the Shuttle environment.
GAS	Get Away Special	small self-contained payload containers providing conventional support to experiments.
GAS BRIDGE	Get Away Special Bridge	structure in the payload bay that can hold up to twelve GAS canisters.
GLOW	GLOW	atmospheric luminosities investigation.
GLOWMR	Global Low Orbit Message Relay	packet data relay satellite.
GOES	Geostationary Operational Environmental Satellite	provides continuous weather coverage of the western hemisphere.

GPS	Global Positioning System	DOD navigation and positioning system.
GRO	Gamma Ray Observatory	investigate extraterrestrial gamma-ray sources.
GSTAR	GSTAR	GTE (General Telephone and Electronics Satellite Corp.) communications satellite.
HBT	Heflex Bioengineering Test	determines proper soil moisture content for maximum growth in 0-g.
HH-G	Hitchhiker (Goddard Space Flight Center version)	GSFC payload carrier for intermediate size experiments attached to the sill of the cargo bay.
HH-M	Hitchhiker (Marshall Space Flight Center version)	MSFC payload carrier for intermediate size experiments attached in the shuttle bay.
HNC	Heavy Nuclei Collector	obtains a sample of actinide nuclei (thorium, uranium, etc.) in cosmic radiation.
HPTE	High Precision Tracking Experiment	demonstrates ability to propagate a low power laser beam through the atmosphere.
HST	Hubble Space Telescope	observes the universe to gain information about its origin, evolution and disposition of stars, galaxies, etc.
IBSE	Initial Blood Storage Equipment	evaluates changes in blood tissue during various storage conditions.
IEF	Isoelectric Focussing Experiment	gather experimental data on the extent of electro-osmosis in space.
IMAX	Imax, Inc. of Toronto, Ontario, Canada	produces motion pictures of orbiter launch, inflight operations and landings suitable for viewing in IMAX theaters such as the Smithsonian.
IML	International Microgravity Laboratory	microgravity missions devoted to material sciences and life sciences studies.

INSAT	Indian National Satellite System	communication and meteorological satellite.
INTELSAT	International Telecommunications Satellite	international telecommunications satellite network.
IOCM	Interim Operational Contamination Monitor	measures molecular and particle contamination in the Shuttle bay.
IRAS	Infrared Astronomical Satellite	infrared telescope.
IR-IE		infrared video camera used to measure temperature gradients on the orbiter surface.
IRIS	Italian Research Interim Stage	an expendable vehicle capable of placing payloads up to 950 kg into geosynchronous transfer orbit.
IRT	Integrated Rendezvous Radar Target	a target for testing of Shuttle orbiter rendezvous techniques and capabilities in orbit.
ISAL	Investigation of STS Atmospheric Luminosities	determine the spectral content of the orbital luminosity.
ISTP	International Solar Terrestrial Program	performs optical and in-site measurements on the outer atmosphere of the sun, the solar interior, the corona and the solar wind.
ITALSAT	Italian Communication Satellite System	satellite housing telecommunication and propagation experiments.
IUS	Inertial Upper Stage	solid rocket booster developed to place satellites in high orbits.
LAGEOS	Laser Geodynamics Satellite	high precision geographical measurements.

LANDSAT		earth resources monitoring satellite.
LDEF	Long Duration Exposure Facility	free-flying satellites providing accommodations for experiments requiring long-duration exposure to the space environment.
LDEF RETR	Long Duration Exposure Facility Retrieval	retrieve and return the LDEF to earth so results may be analyzed.
LEASECRAFT	Leasecraft	Fairchild modular utility satellite - a shuttle-serviced, low-orbiting space platform for lease.
LFC	Large Format Camera	acquire synoptic, high-resolution images of the Earth's surface.
LM	Long Module	Spacelab element composed of a core segment and an experiment segment.
LS-D	Landsat Repair (Landsat D)	rendezvous, capture, repair, and deploy a Landsat D spacecraft using the STS.
MARC-DN	Measurement of Atmospheric Radiance Camera-Day/Night	test fly TV camera against celestial, earthlimb and ground targets with various lighting conditions.
MAST	Structural Technology Demonstration	demonstrate structural integrity through deployment, retraction and restowage, and develop techniques for distributed control and adaptive control methods.
MEA	Materials Equipment Assembly	conducts materials processing experiments in low-g environment.
MLR	Monodisperse Latex Reactor	produces monodisperse latex particles in the two to forty micron range.
MORELOS	MORELOS	Mexican communication satellite system.
MPSS	Mission Peculiar Experiment Support Structure	experiment carrier.

MSAT	Mobile Satellite	provides channel capacity for NASA technology validation experiments and accelerates introduction of commercial mobile satellite service in the U.S.
MSL	Materials Science Laboratory	performs materials processing experiments in low-g.
NOAA	National Oceanic and Atmospheric Administration	provides continuation of Polar Operational Meteorological Satellite System for the Department of Commerce (NOAA).
NOSL	Night/Day Optical Survey of Lightning	optical survey of lightning.
OASIS	OEX (orbiter experiments) Autonomous Supporting Instrumentation System	independent system that can be flown with a payload to acquire and store environment data.
OAST	Office of Aeronautics and Space Technology	demonstration of a large light-weight solar array which is capable of being restowed in flight.
OIM	Oxygen Interaction with Materials	
OMV	Orbital Maneuvering Vehicle	supplements the STS capability for satellite payload delivery, retrieval and maneuvering.
OPEN	Origin of Plasmas in Earth's Neighborhood	obtain the first quantitative assessment of the flow of energy through the geospace environment.
ORION	Orion	Orion Satellite Corporation communications satellite.
ORS	Orbiter Refueling System	demonstrates STS's ability to perform on-orbit satellite refueling.
OSS-2 DXS	Office of Space Science Diffuse X-Ray Spectrometer	conducts x-ray observations on a variety of objects in the 44 to 84 angstrom wavelength region.

OSS-3	Office of Space Science (currently ASTRO)	obtain UV data on astronomical objects.
OSTA-2	Office of Space and Terrestrial Applications	cooperative mission with the Federal Republic of Germany on materials processing experiments in low-gravity.
OSTA-3/5/7	Office of Space and Terrestrial Applications	acquire photographic and radar images of the Earth's surface.
PALAPA	Indonesian Communication Satellite	synchronous satellite communication system for the Republic of Indonesia.
PAM-A	Payload Assist Module A	upper stage designed to deliver up to 4400 lbs to a geosynchronous transfer orbit.
PAM-D	Payload Assist Module D	upper stage designed to deliver up to 2320 lbs to a geosynchronous transfer orbit.
PAM-D II	Payload Assist Module D II	McDonnell Douglas payload assist module with 63 in. solid PKM.
PDRS/PFTA	Payload Deployment and Retrieval System/Payload Flight Test Article	first object to be deployed and retrieved by the remote manipulator system and is used to test reaction of RMS joints.
PPE	Phase Partitioning Experiment	study separation behavior of two phase systems generated by the mixture in water of polyglucose and polyethylene glycol.
PVTOS	Physical Vapor Transport of Organic Solids	grow crystalline films on selected substrates of organic solids.
RADARSAT	RADARSAT	collaborative program designed to remotely monitor the oceans, ice and land over a five year period.
RCA DBS	RCA Direct Broadcasting System	satellite system for Radio Corporation of America.



RME	Radiation Monitoring Equipment (formerly Space Radiation Test)	measures gamma radiation levels in the Shuttle environment.
ROSAT	Roentgensatellit	conducts an all-sky survey.
SAS	Space Adaptation Syndrom	measures vestibular function, motion sickness susceptibility and spatial orientation ability during prolonged weightlessness.
SAREX	Shuttle Amateur Radio Experiment	space to ground voice and slow scan TV.
SATCOL		Colombian communications satellite.
SATCOM		RCA communications satellite.
SAX	X-Ray Astronomy Satellite	scientific study of celestial x-ray sources.
SBS	Satellite Business Systems	all digital domestic communication system servicing large industry, the government, etc.
SBTS-A4		Brazilian telecommunications satellite system.
SEMS	Shuttle Environment Monitoring System	measures Space Shuttle cargo bay environment under launch, flight, and landing conditions.
SHEAL	Shuttle High Energy Astrophysics Laboratory	study of astronomical objects, obtaining images, spectra and timing data on celestial x-ray sources.
SIRTF	Shuttle Infrared Telescope Facility	facility which hosts experiments that increase our understanding of the formation and evolution of stars, planets, galaxies, and unusual galactic objects.
SKYNET	United Kingdom Communication Satellite	military communication satellite for the Royal Navy.

SL 1	Spacelab 1	demonstrate Spacelab's capabilities for multidisciplinary research.
SL 2	Spacelab 2	demonstrate Spacelab's capabilities for multidisciplinary research and verify system performance.
SL 3	Spacelab 3	dedicated materials processing mission emphasizing O-g research.
SLS-1	Space Life Sciences Laboratory 1	investigate the effects of weightlessness exposure using both man and animal specimens.
SLS-2	Space Life Sciences Laboratory 2	reflight of SLS-1.
SLS-3	Space Life Sciences Laboratory 3	exploration of the effects of acute weightlessness on living systems.
SLS-4	Space Life Sciences Laboratory 3	generic life sciences laboratory mission.
SMRM	Solar Maximum Repair Mission	conducts a technology demonstration of the STS capability to rendezvous, service, checkout and deploy.
SOT	Solar Optical Telescope	performs very high spatial resolution observations of the sun.
SPACELAB D-1	German Spacelab Mission D-1	first dedicated DFVLR mission (Deutsche Forschungs-und Versuchsanstalt für Luft und Raumfahrt e.V.). dedicated application and technology science mission.
SPACELAB D-2	German Spacelab Mission D-2	
SPACELAB D-4	German Spacelab Mission D-4	GIRL - German Infrared Radiation Laboratory.
SPACELAB J	Japanese Spacelab Mission	microgravity mission with emphasis on materials processing and life science experiments.

SPACENET	Southern Pacific Satellite Company Communications Satellite	a 3-axis stabilized telecommunication satellite used to provide domestic/commercial common carrier.
SPARTAN- 1	Spartan	x-ray astronomy, medium energy survey mission.
SPARTAN- 2	Spartan	study of solar physics.
SPARTAN- 3	Spartan	ultra violet imaging of a variety of sources.
SPARTAN-HALLEY		search for molecules containing nitrogen, carbon or sulfur and observes the UV spectrum between 2100 and 3400A.
SPARTAN 205US		obtains high resolution EUV solar spectra in two dimensions and maps absolute systematic velocities on the sun's disc.
SPARTAN 206UH		studies high energy physics (broad band x-ray imaging spectrometer).
SPARTAN 211UG		studies spectra of faint extended emission-line objects in the wavelength range between 900 and 1150 angstrom.
SPARTAN 207UG		studies astronomical criteria below 2000 angstrom using the Interstellar Medium Absorption Profile Spectrograph (IMAPS).
SPARTAN204ULUS		obtains simultaneous measurements of the absolute solar flux, the solar spectral content, the solar helium line shape and bandwidth, and the interplanetary hydrogen and helium glow.
SPARTAN 209UH		studies cosmic x-ray spectra from selected celestial sources.
SPARTAN 210CS		study the physical conditions in coronal loops and the fine structure and dynamics of the magnetic field.
SPARTAN 208UL		measures the sulfur dioxide in the atmosphere of Venus; repeats measurement in 1988 and 1990.

SPAS-01	German Shuttle Pallet Satellite	demonstrates the utilization of the MBB platform and systems as a carrier for science experiments.
SP PLASMA	Space Plasma Laboratory	
SRL	Shuttle Radar Laboratory	acquires photographic and radar images of the Earth's land and oceanic surfaces.
SRT	Space Radiation Test (now RME)	measure gamma radiation levels in the Shuttle environment.
SSBUV	Shuttle Solar Backscatter Ultra-Violet Instrument	measures ozone characteristics of the atmosphere.
SSC	Solid Surface Combustion	determine flame spread mechanisms and rates over solid surfaces in the absence of gravity-induced free convection and externally imposed flow.
SSIP	Shuttle Student Involvement Projects	student projects flown on Shuttle.
STC DBS	Satellite Television Corp. Direct Broadcast Satellite	direct broadcast satellite subscription TV.
STTP	Life Sciences Technology Training Program	develop and encourage interest on the part of college students in space biology and medicine.
SUNLAB	Spacelab 2 Solar Telescope	study small-scale structures on the Sun's surface and measure the coronal helium abundance.
SYNCOM	Hughes Geosynchronous Communication Satellite	provides communication services from geosynchronous orbit principally to the US government.
SYNCOM-SALVAGE		salvage of Syncom IV-3 launched on STS 51-D.
TDRS	Tracking and Data Relay Satellite	NASA Communication Satellite.

TELESAT	Canadian Telecommunication Satellite	communication satellite built by Telesat Canada, LTD. to provide voice and TV coverage to trans-Canada network of Earth stations.
TELSTAR	AT & T Communications Satellite	AT & T COMSTAR replacement - provides communication services to the continental US, Alaska, Hawaii, and Puerto Rico.
TEMPS-III-A	Large, High Capacity Heat Pipe Radiator	evaluate on-orbit thermal performance of a heat pipe radiator element designed for Space Station heat rejection system application.
TLD	Thermoluminescent Dosimeter	obtains gamma ray measurements of the Shuttle environment.
TOPEX	Ocean Topography Experiment	remotely sense the global oceans.
TSS	Tethered Satellite System	demonstrate system capabilities by deploying and retrieving tethered satellite and measuring engineering data from payload on satellite.
UARS	Upper Atmospheric Research Satellite	study the physical processes acting within and upon the stratosphere, mesosphere and lower thermosphere.
ULYSSES	formerly ISPM (International Solar Polar Mission)	investigates the properties of the heliosphere (sun and its environment.
UNISAT (USL)	United Satellite, LTD.	British communications satellite which provides direct broadcast TV services to the BBC and the ITA.
USAT	United States Satellite Corporation	domestic communication satellite system.
USSB	US Satellite Broadcast System	provides direct to home radio and TV broadcasting.

UVAM	Ultraviolet Astronomy Mission	
UVX	Ultraviolet Experiment	measures the galactic and extragalactic contribution to the diffuse ultraviolet background radiation in the 600 - 3200 angstrom region.
VOLT-A	Voltage Operating Limit Tests	Evaluates plasma interactions with solar array segments and contributes to the technology base for the design of high voltage power systems for the Space Station.
VRM	Venus Radar Mapper	globally map the surface of Venus.
WESTAR	Western Union Telegraph Communication Satellite	a c-band satellite to replenish and expand the Westar system (Western Union domestic communication system).

# SPACE SHUTTLE CREW ASSIGNMENTS

C - COMMANDER  
P - PILOT

MS - MISSION SPECIALIST  
PS - PAYLOAD SPECIALIST  
SFP - SPACE FLIGHT PARTICIPANT

STS-1  
LAUNCH: 12 APR 1981  
LANDING: 14 APR 1981  
COLUMBIA

C: JOHN W. YOUNG (USN, RET.)  
P: ROBERT L. CRIPPEN (CAPT., USN)

STS-2  
LAUNCH: 12 NOV 1981  
LANDING: 14 NOV 1981  
COLUMBIA

C: JOE H. ENGLE (COL., USAF)  
P: RICHARD H. TRULY (CAPT., USN)

STS-3  
LAUNCH: 22 MAR 1982  
LANDING: 30 MAR 1982  
COLUMBIA

C: JACK R. LOUSMA (COL., USMC)  
P: CHARLES G. FULLERTON (COL., USAF)

STS-4  
LAUNCH: 27 JUN 1982  
LANDING: 04 JUL 1982  
COLUMBIA

C: THOMAS K. MATTINGLY II (CAPT., USN)  
P: HENRY W. HARTSFIELD, JR. (USAF, RET.)

STS-5  
LAUNCH: 11 NOV 1982  
LANDING: 16 NOV 1982  
COLUMBIA

C: VANCE D. BRAND (CIVILIAN)  
P: ROBERT F. OVERMYER (COL., USMC)  
MS: JOSEPH P. ALLEN (PhD - PHYSICS)  
MS: WILLIAM B. LENOIR (PhD - SCIENCE)

STS-6  
LAUNCH: 04 APR 1983  
LANDING: 09 APR 1983  
CHALLENGER

C: PAUL J. WEITZ (CAPT., USN, RET.)  
P: KAROL J. BOBKO (COL., USAF)  
MS: DONALD H. PETERSON (COL., USAF, RET.)  
MS: F. STOREY MUSGRAVE (M.D.)

STS-7  
LAUNCH: 18 JUN 1983  
LANDING: 24 JUN 1983  
CHALLENGER

C: ROBERT L. CRIPPEN (CAPT., USN)  
P: FREDERICK H. HAUCK (CAPT., USN)  
MS: JOHN M. FABIAN (COL., USAF)  
MS: SALLY K. RIDE (PhD - PHYSICS)  
MS: NORMAN E. THAGARD (M.D.)

STS-8  
LAUNCH: 30 AUG 1983  
LANDING: 05 SEP 1983  
CHALLENGER

C: RICHARD H. TRULY (CAPT., USN)  
P: DANIEL C. BRANDENSTEIN (CDR., USN)  
MS: DALE A. GARDNER (LT. CDR., USN)  
MS: GUION S. BLUFORD (MAJ., USAF)  
MS: WILLIAM E. THORNTON (M.D.)

STS-9  
LAUNCH: 28 NOV 1983  
LANDING: 08 DEC 1983  
COLUMBIA

C: JOHN W. YOUNG (USN, RET.)  
P: BREWSTER H. SHAW, JR. (MAJ., USAF)  
MS: OWEN K. GARRIOTT (PhD - ELECTRICAL ENGINEERING)  
MS: ROBERT A. PARKER (PhD - ASTRONOMY)  
PS: ULF MERBOLD, ESA (PHYSICIST)  
PS: BYRON K. LICHTENBERG, MIT (PhD - BIOMEDICAL ENGINEERING)

41-B  
LAUNCH: 03 FEB 1984  
LANDING: 11 FEB 1984  
CHALLENGER

C: VANCE D. BRAND (CIVILIAN)  
P: ROBERT L. GIBSON (LT. CDR., USN)  
MS: BRUCE McCANDLESS II (CDR., USN)  
MS: ROBERT L. STEWART (MAJ., USA)  
MS: RONALD E. MCNAIR (PhD - PHYSICS)

41-C  
LAUNCH: 06 APR 1984  
LANDING: 13 APR 1984  
CHALLENGER

C: ROBERT L. CRIPPEN (CAPT., USN)  
P: FRANCIS R. SCOBEE (USAF, RET.)  
MS: GEORGE D. NELSON (PhD - ASTRONOMY)  
MS: TERRY J. HART (M.S. - ELECTRICAL ENGINEERING)  
MS: JAMES D. VAN HOFTE (PhD - FLUID MECHANICS)

41-D  
LAUNCH: 30 AUG 1984  
LANDING: 05 SEP 1984  
DISCOVERY

C: HENRY W. HARTSFIELD (USAF, RET.)  
P: MICHAEL L. COATS (LT. CDR., USN)  
MS: RICHARD A. MULLANE (MAJ., USAF)  
MS: STEVEN A. HAWLEY (PhD - ASTRONOMY/ASTROPHYSICS)  
MS: JUDITH A. RESNICK (PhD - ELECTRICAL ENGINEERING)  
PS: CHARLES D. WALKER (McDONNELL DOUGLAS)



41-G  
LAUNCH: 05 OCT 1984  
LANDING: 13 OCT 1984  
CHALLENGER

C: ROBERT L. CRIPPEN (CAPT., USN)  
P: JON A. McBRIDE (CDR., USN)  
MS: KATHRYN D. SULLIVAN (PhD - GEOLOGY)  
MS: SALLY K. RIDE (PhD - PHYSICS)  
MS: DAVID C. LEESTMA (LT. CDR., USN)  
PS: MARC GARNEAU (NRCC, CANADA)  
PS: PAUL D. SCULLY-POWER (U.S. NAVY CIVILIAN)

51-A  
LAUNCH: 08 NOV 1984  
LANDING: 16 NOV 1984  
DISCOVERY

C: FREDERICK H. HAUCK (CAPT., USN)  
P: DAVID M. WALKER (CDR., USN)  
MS: ANNA L. FISHER (M.D.)  
MS: DALE A. GARDNER (LT. CDR., USN)  
MS: JOSEPH P. ALLEN (PhD - PHYSICS)

51-C  
LAUNCH: 24 JAN 1985  
LANDING: 27 JAN 1985  
DISCOVERY

C: THOMAS K. MATTINGLY II (CAPT., USN)  
P: LOREN J. SHRIVER (LT. COL., USAF)  
MS: JAMES F. BUCHLI (LT. COL., USMC)  
MS: ELLISON S. ONIZUKA (MAJ., USAF)  
PS: GARY E. PAYTON (MAJ., USAF)

51-D  
LAUNCH: 12 APR 1985  
LANDING: 17 APR 1985  
DISCOVERY

C: KAROL J. BOBKO (COL., USAF)  
P: DONALD E. WILLIAMS (CDR., USN)  
MS: M. RHEA SEDDON (M.D.)  
MS: JEFFREY A. HOFFMAN (PhD - ASTROPHYSICS)  
MS: S. DAVID GRIGGS (COL., USAF)  
PS: CHARLES D. WALKER (McDONNELL DOUGLAS)  
PS: E. JAKE GARN (U.S. SENATE)

51-B  
LAUNCH: 29 APR 1985  
LANDING: 06 MAY 1985  
CHALLENGER

C: ROBERT F. OVERMYER (COL., USMC)  
P: FREDERICK D. GREGORY (LT. COL., USAF)  
MS: DON L. LIND (PhD - HIGH ENERGY NUCLEAR PHYSICS)  
MS: NORMAN E. THAGARD (M.D.)  
MS: WILLIAM E. THORNTON (M.D.)  
PS: LODIEWIK VAN DEN BERG (EG&G CORP.)  
PS: TAYLOR G. WANG (JET PROPULSION LABORATORY)

51-G  
LAUNCH: 17 JUN 1985  
LANDING: 24 JUN 1985  
DISCOVERY

C: DANIEL C. BRANDENSTEIN (CAPT., USN)  
P: JOHN O. CREIGHTON (CDR., USN)  
MS: SHANNON W. LUCID (PhD - BIOCHEMISTRY)  
MS: STEVEN R. NAGEL (LT. COL., USAF)  
MS: JOHN M. FABIAN (COL., USAF)  
PS: SALMAN ABDELAZIZE AL-SAUD (ARABSAT)

PS: PATRICK BAUDRY (FRANCE)

51-F  
LAUNCH: 12 JUL 1985  
LANDING: 19 JUL 1985  
CHALLENGER

C: CHARLES G. FULLERTON (COL., USAF)  
P: ROY D. BRIDGES (COL., USAF)  
MS: F. STORY MUSGRAVE (M.D.)  
MS: ANTHONY W. ENGLAND (PhD - EARTH & PLANETARY SCIENCE)  
MS: KARL G. HENIZE (PhD - ASTRONOMY)  
PS: LOREN W. ACTON (LOCKHEED)  
PS: JOHN-DAVID BARTOE (U.S. NAVY CIVILIAN)

51-I  
LAUNCH: 24 AUG 1985  
LANDING: 01 SEP 1985  
DISCOVERY

C: JOE H. ENGLE (COL., USAF)  
P: RICHARD O. COVEY (LT. COL., USAF)  
MS: JAMES VAN HOFTEN (PhD - FLUID MECHANICS)  
MS: JOHN M. LOUNGE (M.S. - ASTROPHYSICS)  
MS: WILLIAM F. FISHER (M.D.)

51-J  
LAUNCH: 09 SEP 1985  
LANDING:  
ATLANTIS

C: KAROL BOBKO (COL., USAF)  
P: RONALD J. GRABE (LT. COL., USAF)  
MS: ROBERT STEWART (COL., USA)  
MS: DAVID HILMERS (MAJ., USMC)

61-A  
LAUNCH: 30 OCT 1985  
LANDING: 06 NOV 1985  
CHALLENGER

C: HENRY W. HARTSFIELD (USAF, RET.)  
P: STEVEN R. NAGEL (MAJ., USAF)  
MS: JAMES F. BUCHLI (LT. COL., USMC)  
MS: GUION S. BLUFORD, JR. (LT. COL., USAF)  
MS: BONNIE J. DUNBAR (PhD - BIOMEDICAL ENGINEERING)  
PS: REINHARD FURRER (DFVLR) (GERMAN)  
PS: ERNST MESSERSCHMID (DFVLR) (GERMAN)  
PS: WUBBO OCKELS (DFVLR) (DUTCH)

61-B  
LAUNCH: 27 NOV 1985  
LANDING: 04 DEC 1985  
ATLANTIS

C: BREWSTER H. SHAW, JR. (LT. COL., USAF)  
P: BRYAN D. O'CONNOR (LT. COL., USMC)  
MS: MARY L. CLEAVE (PhD - CIVIL ENGINEERING)  
MS: SHERWOOD C. SPRING (LT. COL., USA)  
MS: JERRY L. ROSS (MAJ., USAF)  
PS: RUDOLFO NERI VELA (MORELOS)  
PS: CHARLES WALKER (McDONNELL DOUGLAS)

61-C  
LAUNCH: 20 DEC 1985  
LANDING: 27 DEC 1985  
COLUMBIA

C: ROBERT L. GIBSON (LT. CDR., USN)  
P: CHARLES F. BOLDEN, JR. (MAJ., USMC)  
MS: FRANKLIN R. CHANG-DIAZ (PhD - PLASMA PHYSICS)  
MS: STEVEN A. HAWLEY (PhD - ASTROPHYSICS)  
MS: GEORGE D. NELSON (PhD - ASTRONOMY)  
PS: ROBERT CENKER (RCA)  
PS: GREGORY JARVIS (HUGHES)

51-L  
LAUNCH: 22 JAN 1986  
LANDING: 28 JAN 1986  
CHALLENGER

C: FRANCIS R. SCOBEE (USAF, RET.)  
P: MICHAEL J. SMITH (CDR., USN)  
MS: JUDITH A. RESNICK (PhD - ELECTRICAL ENGINEERING)  
MS: ELLISON ONIZUKA (MAJ., USAF)  
MS: RONALD E. MCNAIR (PhD - PHYSICS)  
SFP: TEACHER IN SPACE PROJECT

61-E  
LAUNCH: 06 MAR 1986  
LANDING: 14 MAR 1986  
COLUMBIA

C: JON A McBRIDE (CDR., USN)  
P: RICHARD N. RICHARDS (LT. CDR., USN)  
MS: ROBERT A. R. PARKER (PhD)  
MS: DAVID C. LEESTMA (LT. CDR., USN)  
MS: JEFFREY A. HOFFMAN (PhD)  
PS: ASTRO PAYLOAD SPECIALIST  
PS: ASTRO PAYLOAD SPECIALIST

62-A  
LAUNCH: 20 MAR 1986  
LANDING:  
DISCOVERY

C: ROBERT L. CRIPPEN (CAPT., USN)  
P: GUY S. GARDNER (LT. COL., USAF)  
MS: DALE A. GARDNER (CDR., USN)  
MS: JERRY L. ROSS (MAJ., USAF)  
MS: RICHARD M. MULLANE (LT. COL., USAF)

61-F  
LAUNCH: 15 MAY 1986  
LANDING: 17 MAY 1986  
CHALLENGER

C: FREDERICK H. HAUCK (CAPT., USN)  
P: ROY D. BRIDGES (COL., USAF)  
MS: DAVID C. HILMERS (MAJ., USMC)  
MS: JOHN M. LOUNGE (M.S. - ASTROPHYSICS)

61-G  
LAUNCH: 21 MAY 1986  
LANDING: 23 MAY 1986  
ATLANTIS

C: DAVID M. WALKER (CDR., USN)  
P: RONALD J. GRABE (LT. COL., USAF)  
MS: JOHN M. FABIAN (COL., USAF)  
MS: JAMES D. VAN HOFTEN (PhD - FLUID MECHANICS)

61-H  
LAUNCH: 24 JUN 1986  
LANDING: 01 JUL 1986  
COLUMBIA

C: MICHAEL L. COATS (CDR., USN)  
P: JOHN E. BLAHA (COL., USAF)  
MS: ANNA L. FISHER (M.D.)  
MS: NORMAN E. THAGARD (M.D.)  
MS: ROBERT C. SPRINGER (LT. COL., USMC)  
PS: INDONESIAN PAYLOAD SPECIALIST  
PS: NIGEL WOOD (SKYNET)

61-M  
LAUNCH: 15 JUL 1986  
LANDING: 20 JUL 1986  
CHALLENGER

CREW ASSIGNMENT UNDER REVIEW  
PS: INDIAN PAYLOAD SPECIALIST

61-J  
LAUNCH: 08 AUG 1986  
LANDING: 13 AUG 1986  
ATLANTIS

C: UNDER REVIEW  
P: UNDER REVIEW  
MS: KATHRYN SULLIVAN (PhD - GEOLOGY)  
MS: STEVEN HAWLEY (PhD - ASTRONOMY/ASTROPHYSICS)  
MS: BRUCE McCANDLESS (CDR., USN)

61-K  
LAUNCH: 03 SEP 1986  
LANDING: 10 SEP 1986  
COLUMBIA

CREW ASSIGNMENT UNDER REVIEW  
PS: MICHAEL LAMPTON (PhD - U. C.-BERKELEY)  
PS: BYRON K. LICHTENBERG (PhD - MIT)

61-I  
LAUNCH: 15 JUL 1986  
LANDING: 22 JUL 1986  
CHALLENGER

C: LOWEN J. SHRIVER (LT. COL., USAF)  
P: BRYAN D. O'CONNOR (LT. COL., USAF)  
MS: SALLY K. RIDE (PhD - PHYSICS)  
MS: WILLIAM F. FISHER (M.D.)  
MS: MARK C. LEE (CAPT., USAF)

62-B

LAUNCH: 29 SEP 1986

LANDING:

DISCOVERY

CREW ASSIGNMENT UNDER REVIEW

61-L

LAUNCH: 22 OCT 1986

LANDING: 29 OCT 1986

CHALLENGER

CREW ASSIGNMENT UNDER REVIEW

PS: ASC PAYLOAD SPECIALIST

PS: DOD PAYLOAD SPECIALIST

06/19/85

(NASA-TM-87491) SPACE TRANSPORTATION  
SYSTEM. / SPACE SHUTTLE PAYLOAD FLIGHT  
ASSIGNMENTS (National Aeronautics and Space  
Administration) 57 p HC A04/MF A01 CSCL 22B